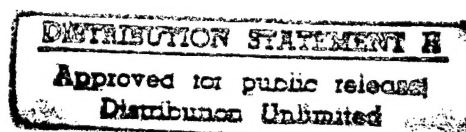


PROGRESS REPORT

April 1 through April 30, 1997

OFFICE OF NAVAL RESEARCH GRANT NO:

N00014-95-1-0055



National Marrow Donor Program®
3433 Broadway Street N.E.
Suite 500
Minneapolis, MN 55413

June 12, 1997

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TABLE OF CONTENTS

I. PROJECT DESCRIPTION.....	1
A. Specific Aims	1
B. Budgeted Categories	1
1. \$5,224,188 Scientific Studies of Allele-Specific Typing of Donor\Recipient Samples.	1
2. \$0 NMDP HLA Match Vs. Outcome Research (Reallocated).....	1
3. \$16,124,798 Histocompatibility Laboratories for DNA HLA-DR Typing.....	1
4. \$24,000 Histocompatibility Laboratories for HLA-A, B & DR Typing.....	1
5. \$0 NMDP Staff Immunogeneticist (Reallocated)	1
6. \$553,625 Repository	1
7. \$600,000 Feasibility for Confirmatory Class I DNA Testing	1
8. \$0 Contract Laboratory for Reference/Pre-Test Cells (Reallocated)	2
9. \$100,000 Class I Sequencing Database	2
10. \$853,620 Donor Center Hardware/Software	2
11. \$498,023 Facilitation of Rapid Communication with Foreign Registries	2
12. \$12,717 Probability of A, B, DR Identical Matches.....	2
13. \$200,000 Revision of Search Algorithm.....	2
14. \$209,316 Data Management for the International Consortium on the Effects of Radiation/Studies of effects of Exposure to Ionizing Radiation	2
15. \$34,680 HR/HW Search.....	2
16. \$0 Resolution of Discrepant HLA Typing on Donors (Reallocated).....	2
17. \$67,545 Donor HLA Override Modifications	2
18. \$0 Enhancements to BMDW Processing (Reallocated)	2
19. \$0 Cord Blood Repository Software (Reallocated).....	2
20. \$0 Transplant Center Software (Reallocated)	2
21. \$0 Modify Repository Software (Reallocated)	2
22. \$11,425,000 Minority HLA-A, B Typing	2
23. \$67,153 National Minority Campaigns	2
24. \$232,925 Pilot Recruitment/Retention Program.....	2
25. \$6,250,406 Community HLA-A, B Matching Funds.....	2
26. \$5,859 Donor Center Waiting Lists	2
27. \$135,000 Physician Histocompatibility and Transplant Center Coordinator Education....	2
28. \$963,540 Registry Wide Newsletter.....	2
29. \$0 Transplant and Collection Center Newsletter (Reallocated)	3
30. \$3,898 Physician Education.....	3
31. \$15,109 Patient Education.....	3
32. \$0 NMDP Speaker Support Materials (Reallocated).....	3
33. \$596,428 Targeted Group Awareness and Education Activities.....	3
34. \$535,818 Integrated Communications for Targeted Campaigns	3
35. \$0 Phase II National Public Service Campaign (Reallocated).....	3

36. \$256,989 Long Term Blood Storage Alternative Investigations	3
37. \$315,625 Program Administration	3
38. \$293,738 Alternative Blood Products Software	3
 II. RESULTS BY CATEGORY	 3
A. HLA Typing And Research	3
1. Scientific Studies of Allele-Specific Typing of Donor\Recipient Samples	3
3. Histocompatibility Laboratories for DNA HLA-DR Typing	4
6. Repository	5
7. Feasibility for Confirmatory Class I DNA Testing	5
B. Electronic Communication	6
1. Donor Center Hardware/Software	6
2. Facilitation of Rapid Communication with Foreign Registries	6
4. Revision of Search Algorithm	6
10. Cord Blood Repository Software	6
C. Donor Services Activities	7
3. Pilot Recruitment/Retention Programs	7
D. Public education and Awareness	7
4. Physician Education	7
7. Targeted Group Awareness and Education Activities	8
8. Integrated Communications for Targeted Campaigns	8
E. Long Term Blood Storage Alternative Investigations	9
F. Program Administration	9
 III. SUMMARY	 9
IV. ATTACHMENTS	
1. Reallocation Report	
2. A. High Resolution Class II DNA Typing Laboratories	
B. High Resolution Class I DNA Typing Laboratories	
3. A. Donor Typings Performed	
B. Donor Samples Stored and Shipped	
4. Agenda For The Transplant Center Coordinator Spring Meeting	

PROGRESS REPORT FOR OFFICE OF NAVAL RESEARCH

GRANT NO: N00014-95-1-0055

(As Modified through P00001, A00002)

This periodic progress report covers activities supported by Grant #N00014-95-1-0055, as modified, from April 1 through April 30, 1997. This Grant was due to expire on September 30, 1996. Amendment A00002 extended it through December 31, 1996. Amendment A00003 extended it through September 30, 1997. As only 12 budgeted line items will have activity, this report will be limited to those items in this report and in the future.

I. PROJECT DESCRIPTION

A. Specific Aims

During this period, the National Marrow Donor Program® (NMDP) used grant funds to support activities directed toward the following goals:

1. Enhance an already effective system which rapidly identifies and tracks the availability of matched donors for patients requiring marrow transplants.
2. Increase the total number and racial diversity of the NMDP's volunteer donor file and provide HLA-DR typing on as many donors as possible in an effort to reduce patient search time and costs.
3. Perform HLA typing of the donor/recipient samples stored in the NMDP's research sample repository, and compare the detailed molecular typing results with patient outcome data to determine the correlation between post-transplant outcome and degree of HLA match.

B. Budgeted Categories

1. **\$5,224,188 Scientific Studies of Allele-Specific Typing of Donor\Recipient Samples.**
2. **\$0 NMDP HLA Match Vs. Outcome Research (Reallocated)**
3. **\$16,124,798 Histocompatibility Laboratories for DNA HLA-DR Typing**
4. **\$24,000 Histocompatibility Laboratories for HLA-A, B & DR Typing**
5. **\$0 NMDP Staff Immunogeneticist (Reallocated)**
6. **\$553,625 Repository**
7. **\$600,000 Feasibility for Confirmatory Class I DNA Testing**

8. \$0 Contract Laboratory for Reference/Pre-Test Cells (Reallocated)
9. \$100,000 Class I Sequencing Database
10. \$853,620 Donor Center Hardware/Software
11. \$498,023 Facilitation of Rapid Communication with Foreign Registries
12. \$12,717 Probability of A, B, DR Identical Matches
13. \$200,000 Revision of Search Algorithm
14. \$209,316 Data Management for the International Consortium on the Effects of Radiation/Studies of Effects of Exposure to Ionizing Radiation
15. \$34,680 HR/HW Search
16. \$0 Resolution of Discrepant HLA Typing on Donors (Reallocated)
17. \$67,545 Donor HLA Override Modifications
18. \$0 Enhancements to BMDW Processing (Reallocated)
19. \$0 Cord Blood Repository Software (Reallocated)
20. \$0 Transplant Center Software (Reallocated)
21. \$0 Modify Repository Software (Reallocated)
22. \$11,425,000 Minority HLA-A, B Typing
23. \$67,153 National Minority Campaigns
24. \$232,925 Pilot Recruitment/Retention Program
25. \$6,250,406 Community HLA-A, B Matching Funds
26. \$5,859 Donor Center Waiting Lists
27. \$135,000 Physician Histocompatibility and Transplant Center Coordinator Education
28. \$963,540 Registry Wide Newsletter

- 29. \$0 Transplant and Collection Center Newsletter (Reallocated)
- 30. \$3,898 Physician Education
- 31. \$15,109 Patient Education
- 32. \$0 NMDP Speaker Support Materials (Reallocated)
- 33. \$596,428 Targeted Group Awareness and Education Activities
- 34. \$535,818 Integrated Communications for Targeted Campaigns
- 35. \$0 Phase II National Public Service Campaign (Reallocated)
- 36. \$256,989 Long Term Blood Storage Alternative Investigations
- 37. \$315,625 Program Administration
- 38. \$293,738 Alternative Blood Products Software

II. RESULTS BY CATEGORY

A. HLA Typing And Research

1. Scientific Studies of Allele-Specific Typing of Donor\Recipient Samples

This project's primary objective is to determine the impact of HLA matching, defined by the highest resolution of molecular typing possible, on transplant outcome. The project was initiated with funding from Navy Grant N00014-93-1-0658 and continues under funding from this grant. There are three phases to this study. Phase I continues the allele level class II typing on the donor-recipient samples stored in the NMDP's repository at Irwin Memorial Blood Center; Phase II continues the allele-level class I typing on the donor-recipient samples; and Phase III involves data analysis and transplant outcome correlation.

Phase I

The nine laboratories involved in this phase of the project have now completed the typings of the first 1,302 donor-recipient pairs funded under Navy grant N00014-93-1-0658. Upon evaluation of competitive bids, 6 laboratories were selected to continue participation in this project. The new contracts and typing of 1,000 new donor recipient paired samples began in December 1996. The NMDP began to receive

typing results in January 1997. Results reported to date are detailed in Attachment 2A.

Phase II

The Five Laboratories involved in this phase of the project have now completed the primary typing of the first 750 pairs. Resolution of identified typing discrepancies and non-amplifiable samples is in progress. New contract amendments were issued on February 12 to type the next 1,500 pairs, and additional samples have been sent to the laboratories. Results reported to date are detailed in Attachment 2B.

The NMDP will be responsible for the management of the data generated by the Class I and II typing laboratories. Software and programming to manage the data and to make the necessary comparison was completed January 1996.

3. Histocompatibility Laboratories for DNA HLA-DR Typing

In February 1992, a DNA pilot project was implemented to test the feasibility of using DNA technology, specifically Polymerase Chain Reaction (PCR) Sequence Specific Oligonucleotide Probe (SSOP) typing to identify the Class II antigens at the HLA-DR and DQ loci. An additional focus of the pilot project was to institute a quality control system which would monitor the performance of the laboratories and establish an accuracy standard for PCR-SSOP typing. The pilot project successfully demonstrated that prospective collection of HLA-DR samples for storage and later typing by DNA contract laboratories was an efficient option for prospective HLA-DR typing of large numbers of volunteer donors as well as for patient-directed typing. In addition, the blind quality control program has shown that molecular HLA-DR typing can be performed at high volume and low cost and still be highly accurate (less than a 2% error rate overall). The efforts of the pilot project were funded under Navy grant N00014-91-J-1895.

Based on the success of the DNA pilot project, the program was expanded (under funding provided through Navy grants N00014-92-J-1551 and N00014-93-1-0658) to include two DNA repositories, 16 contract DNA typing laboratories and all the NMDP donor centers. The design of the DNA project remained virtually identical to that of the pilot project and continues to include ongoing quality control. Funding for these typings was provided through this Navy grant beginning on March 1, 1995. Prior to that time, Navy Grant N00014-93-1-0658 funded the typings for this project. Attachment 3A details the activities of these laboratories. During this reporting period the typing activities were partially funded through a contract between the NMDP and the Health Resources and Services Administration (HRSA).

6. Repository

The NMDP's two DNA repositories (American Red Cross National Headquarters and Children's Hospital of Pittsburgh) continued to receive samples from virtually all of the NMDP's donor centers. Approximately 90%-95% of all newly recruited donors have samples submitted to one of the two NMDP DNA repositories. Currently, repository services provided by the Children's Hospital of Pittsburgh are funded separately. The activity of the two repositories during the report period is detailed in Attachment 3B.

7. Feasibility for Confirmatory Class I DNA Testing

The technology of molecular HLA typing for identification of class I HLA types has progressed rapidly in the past few years. Although the technology is not as advanced as in Class II HLA typing, it has progressed to the point where antigen-level typing can be performed by molecular means for the HLA-A and B loci.

The feasibility of developing a network of labs to perform DNA-based HLA-A, B typing, the impact on existing procedures and practices at the transplant centers and DNA repositories, and the costs associated with developing this network would be determined and used to evaluate whether network-wide implementation is possible. The benefit of utilizing molecular Class I typing lies in the ability to perform a very accurate, detailed molecular typing on a stored sample, to confirm a questionable result or to implement confirmatory typing while the donor is completing other parts of the search process, such as the information session or physical exam. Either scenario would result in a shortened search process, because fewer discrepant samples would be identified in later stages of the search process. The ability to conduct confirmatory typing in parallel with other donor procedures would significantly shorten the search process, saving lives in those cases when the patient has little time to spare. An RFP was released November 1, 1996, to solicit proposals from laboratories capable of performing DNA-based HLA-A, B typing. Proposals from 35 laboratories were received by the December 13 due date. The technical review of these proposals was held February 20, 1997. Review of the Business Proposal and offer letters will be completed in April. A Principal Investigators' Meeting will be held in Bethesda, MD on May 20, 1997. Typing is expected to begin in June 1997.

B. Electronic Communication

1. Donor Center Hardware/Software

The conversion of STAR Link™ to all domestic donor centers using DMAT has been completed. As of the end of April 1997, 87 donor centers will be successfully converted to STAR Link.

2. Facilitation of Rapid Communication with Foreign Registries

The NMDP is working in cooperation with foreign registries to provide international data exchange and to streamline international searches. The STAR® system has been installed and is currently operating at the Australian Bone Marrow Donor Registry (ABMDR) in Australia. As of March 1997, requirements have been defined and programming completed for an upgrade of ABMDR's version of the STAR application. A duplicate of ABMDR's system has been set up at the NMDP to provide a test environment for the upgrade.

The NMDP preliminary searches are sent electronically on a daily basis to the Anthony Nolan Bone Marrow Trust in England, who then returns a file of search results. A similar interface has been designed, developed and tested for France Greffe de Moelle (FGM). The NMDP began electronically sending preliminary searches to the FGM in July of 1996.

4. Revision of Search Algorithm

Although the STAR® system stores the DNA typing data for both donors and recipients, the current matching algorithm evaluates the match grade based upon serologic equivalent typing results. The NMDP Histocompatibility Committee addressed the need to revise the algorithm to incorporate molecular-based matching at its November 6, 1995, meeting. A working group of histocompatibility experts and transplant center physicians has been assigned to define the matching criteria. All the funding available for this project in N00014-95-1-0055 has been expended; however, effort continues under the Cooperative Agreement.

10. Cord Blood Repository Software

This category has been reallocated to \$0. Effort on this project was delayed due to completion of other cord blood phases. These funds were reallocated in March 1996 to fund the Alternative Blood Products Software.

C. Donor Services Activities

3. Pilot Recruitment/Retention Programs

In 1993, the NMDP requested Navy funds to continue minority focused recruitment efforts after the targeted campaigns were completed. The goal was to develop models for each racial/ethnic group that would maximize the numbers of donors recruited onto the registry and also improve retention of these donors when they were contacted for further testing on behalf of a patient.

The NMDP seeks to build on previous programs funded by the Navy with special attention to those recruitment strategies and programs that have proven to be most successful and appear to provide the greatest opportunity for replication in other areas.

A Request for Proposal (RFP) was let in the spring of 1995 to community based organizations and donor centers in selected geographic areas. The response was very low and determined not to be competitive. The Navy was asked to allow the NMDP to redefine the use of the funds for this program for the following:

- Provide an opportunity for existing NMDP recruitment groups (8) that focus on minority recruitment to receive one recruitment staff position. The RFP was let in June 1996 with a response deadline of July 19, 1996. Four (4) recruitment groups were awarded subcontracts for a Coordinator for Minority Public Education/Awareness, based on proposals submitted and reviewed through June 1997.
- Provide staff support for the American Indian/Alaska Native initiative, especially for health professional education about unrelated marrow transplantation.

Remaining funds were reallocated out of this line item for community matching typings.

D. Public Education and Awareness

4. Physician Education

The third annual Transplant Center Coordinator Spring Meeting was held on April 14-15 at the Doubletree Hotel in Tucson, AZ. Approximately 90 centers attended, representing over 75% of U.S. transplant centers. The agenda (Attachment 4) included a 90 minute session on Search Strategies, which focused on different approaches to donor searches when the patient has an unusual or hard-to-type HLA type. Attention was also paid to submission and completion of the NMDP recipient data forms, as well as the NMDP's future plans to

incorporate DNA-based Class I and Class II typings into the search algorithm. Overall presentation ratings were either "good" or "excellent".

7. Targeted Group Awareness and Education Activities

Communication & Education staff continue to create new opportunities to generate visibility in the media and help our local centers increase the potential success of events and activities designed to raise awareness of the need for volunteers, particularly minorities, to join the Registry.

The news release announcing the NMDP's cooperative agreement with the Japan Marrow Donor Program was distributed to Asian and mainstream media in the top 15 markets based on Asian population. Information was also featured on NMDP's website and emailed to Asian-owned U.S. businesses as a courtesy for posting on their sites.

Staff facilitated the NMDP's activities at the 6th Biennial Symposium on Cancer, Minorities and the Medically Underserved. The NMDP was a sponsoring organization. NMDP's presence included three presentations, a donor recruitment drive and promotion to the media. Additionally, a group from one of NMDP's donor centers received one of the HOPE awards, which provided high visibility.

Major media hits include: *Washington Post*, *USA Today*, *Univision*, *Houston*; *Fox News*, *New York*; *Los Angeles Times*, *Orange County Register*, *Thrive Online*, and *Newsweek*.

8. Integrated Communications for Targeted Campaigns

The NMDP uses communications firms with cultural experience and resources specific to each targeted audience. The expertise of C&E and the firms enables development of culturally sensitive, campaign-specific materials in languages key to our audiences. These materials are tested among representative groups for cultural sensitivity and effectiveness. Additionally, the firms provide a resource with non-English speaking minority media.

Media breakfasts for the Hispanic Campaign, as described last month, were held in El Paso and San Antonio this month. Coverage by the media has been good, even though attendance was not what we had hoped. C&E staff is working with donor center staff to ensure follow-up contact and mailings after the event. There is one more breakfast to be scheduled in Los Angeles. C&E staff is working with staff at the Los Angeles Red Cross donor center to work around the Red Cross strike at the center.

E. Long Term Blood Storage Alternative Investigations

A contract (#6030) with Coriell Institute for Medical Research was issued on March 1, 1995, to evaluate alternative methodologies of long term whole blood storage and to compare them with the current protocol of freezing whole blood in 1 ml aliquots. Based on less than satisfactory performance, this contract was terminated for convenience of the NMDP on November 7, 1995. An amount of \$6,989 was made to Coriell as complete payment for services performed. An RFQ will be sent in May 1997 to the DNA-based HLA-A,B and HLA-DR typing contract laboratories to provide typing services for this study. The study is scheduled to begin in June 1997.

F. Program Administration

During this period no funds were expended from this category to cover the salary, office rental, and related expenses of the Administrator of Navy Funded Programs. Attachment 1 reflects all approved reallocations.

III. SUMMARY

Navy grant # N00014-95-1-0055 continues to support the NMDP projects which decrease the time and expense required for patients to find compatible unrelated donors, while funding research designed to increase understanding of the role of HLA matching on patient outcome post-transplant. Many of the activities described in this report represent continuations of successful projects implemented previously.

ATTACHMENT 1

\$45,000,000 NAVY GRANT SUMMARY OF ACTIVITIES

NAVY GRANT N00014-95-1-0055 REALLOCATIONS REPORT

Category	Original Grant Budget	Added by Modification P00001	TOTAL MODIFIED GRANT AMOUNT	#1 02/14/95	#2 06/06/95	#3 03/06/96	#4 05/10/96	#5 06/15/96	#6 09/06/96 (Verbally appd. 8/96)	#7 08/28/96	#8 08/28/96	#9 12/19/96	#10 4/15/97	Total Reallocated Grant Amount
1 Scientific Studies of Allele-Specific Typing of Donor\	\$3,100,000	\$1,450,000	\$4,550,000										\$674,188	\$5,224,188
2 NMDP HLA Match Vs. Outcome Research	\$500,000	\$0	\$500,000											\$0
3 Histocompatibility Laboratories for DNA HLA DR T	\$6,700,000	\$5,300,000	\$12,000,000					\$2,000,000						\$16,124,798
4 Histocompatibility Laboratories for HLA-A, B & DR	\$2,300,000	\$500,000	\$2,800,000					(\$2,300,000)						\$24,000
5 NMDP Staff Immunogeneticist	\$200,000	\$200,000	\$400,000											\$0
6 Repository	\$0	\$700,000	\$700,000											\$553,625
7 Feasibility for Confirmatory Class I DNA Testing	\$0	\$300,000	\$300,000					\$300,000						\$600,000
8 Contract Laboratory for Reference/Pre-Test Cells	\$0	\$100,000	\$100,000											\$0
9 Class I Sequencing Database	\$0	\$100,000	\$100,000											\$0
10 Donor Center Hardware/Software	\$1,000,000	\$1,000,000	\$2,000,000											\$100,000
11 Facilitation of Rapid Communication with Foreign Re	\$500,000	\$1,000,000	\$2,000,000											\$853,620
12 Probability of A, B, DR Identical Matches	\$500,000	\$0	\$500,000											\$498,023
13 Revision of Search Algorithm	\$200,000	\$0	\$200,000											\$12,717
14 Data Management for the International Consortium on	\$250,000	\$150,000	\$400,000											\$200,000
15 HR/HW Search	\$0	\$0	\$0					\$34,680						\$209,316
16 Resolution of Discrepant HLA Typing on Donors	\$0	\$75,000	\$75,000											\$34,680
17 Donor HLA Override Modifications	\$0	\$75,000	\$75,000											\$0
18 Enhancements to BMDW Processing	\$0	\$100,000	\$100,000											\$67,545
19 Cord Blood Repository Software	\$0	\$150,000	\$150,000											\$0
20 Transplant Center Software	\$0	\$100,000	\$100,000											\$0
21 Modify Repository Software	\$0	\$75,000	\$75,000											\$0
22 Minority HLA-A, B Typing	\$4,400,000	\$5,750,000	\$10,150,000											\$11,425,000
23 National Minority Campaigns	\$250,000	\$750,000	\$1,000,000											\$67,153
24 Pilot Recruitment/Retention Program	\$1,000,000	\$500,000	\$1,500,000											\$232,925
25 Community HLA-A, B Matching Funds	\$2,100,000	\$2,300,000	\$4,400,000											\$6,250,406
26 Donor Center Waiting Lists	\$450,000	\$103,000	\$553,000						\$547,141					\$5,859
27 Physician Histocompatibility and Transplant Center C	\$100,000	\$160,000	\$260,000						(\$547,141)					\$135,000
28 Registry Wide Newsletter	\$400,000	\$650,000	\$1,050,000											\$963,540
29 Transplant and Collection Center Newsletter	\$20,000	\$0	\$20,000											\$0
30 Physician Education	\$30,000	\$0	\$30,000											\$3,898
31 Patient Education	\$30,000	\$25,000	\$55,000											\$15,109
32 NMDP Speaker Support Materials	\$20,000	\$0	\$20,000											\$0
33 Targeted Group Awareness and Education Activities	\$150,000	\$0	\$150,000											\$596,428
34 Integrated Communications for Targeted Campaigns	\$550,000	\$0	\$550,000											\$535,818
35 Phase II National Public Service Campaign	\$0	\$50,000	\$50,000											\$0
36 Long Term Blood Storage Alternative Investigations	\$0	\$0	\$0											\$256,989
37 Program Administration	\$300,000	\$337,000	\$637,000											\$315,625
38 Alternative Blood Products Software	\$24,600,000	\$21,000,000	\$45,600,000											\$293,738
														\$45,600,000

6/10/97
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* Date is the date of ONR Contracting Officer Written Approval to the NMDP

ATTACHMENT 2

- (A) HIGH RESOLUTION CLASS II DNA
TYPING LABORATORIES
- (B) HIGH RESOLUTION CLASS I DNA
TYPING LABORATORIES

CUMULATIVE DISTRIBUTION OF TYPING RESULTS BY LOCUS
HIGH RESOLUTION CLASS II
TOTAL FOR ALL LABORATORIES
April 30, 1997

LOCUS	RQSTD #	RESULTS COMPLETED		RESULTS OPEN		RESULTS PARTLY COMPLETED		RESULTS NOT COMPLETED		RESULTS NO MAKE	
		#	%	#	%	#	%	#	%	#	%
DRB1	8139	6290	77.3	1702	20.9	70	0.9	1772	21.8	77	1.0
DRB3	4904	3956	80.7	878	17.9	32	0.7	910	18.6	38	0.8
DRB4	4466	3467	77.6	948	21.2	10	0.2	958	21.5	41	0.9
DRB5	2454	1914	78.0	516	21.0	1	0.0	517	21.1	23	0.9
DPA1	7734	5778	74.7	1907	24.7	0	0.0	1907	24.7	49	0.6
DPB1	7741	5605	72.4	2079	26.9	0	0.0	2079	26.9	57	0.7
DQA1	8015	5469	68.2	2454	30.6	2	0.0	2456	30.6	90	1.1
DQB1	7980	6228	78.0	1617	20.3	46	0.6	1663	14.6	89	1.1
TOTAL	51433	38707	75.3	12101	23.5	161	0.3	12262	23.8	464	0.9

(36,537 Phase I, 14,896 Phase II)

RQSTD

= # of IDs that will be typed at a given locus

COMPLETED

= # of IDs where 2 valid results have been received

OPEN

= # of IDs where no results have been received

PARTLY COMPLETED

= # of IDs where 1 valid result has been received but the second result has not been received

NOT COMPLETED

= Sum of OPEN and PARTLY COMPLETE

NO MAKE

= # of IDs where a no make has been received at one or both alleles

CUMULATIVE DISTRIBUTION OF TYPING RESULTS BY LOCUS
HIGH RESOLUTION CLASS I
TOTAL FOR ALL LABORATORIES
April 30, 1997

LOCUS	RQSTD #	RESULTS COMPLETED		RESULTS OPEN		RESULTS PARTLY COMPLETED		RESULTS NOT COMPLETED		RESULTS NO MAKE	
		#	%	#	%	#	%	#	%	#	%
A	8,552	2,920	34.1	5,305	62.0	34	0.4	5,339	62.4	359	4.2
B	8,552	3,036	35.5	5,488	64.2	10	0.1	5,498	64.3	44	0.5
C	8,552	3,803	44.5	4,482	52.4	0	0.0	4,482	52.4	269	3.1
TOTAL	25,656	9,759	38.0	15,275	59.5	44	0.2	15,319	59.7	672	2.6

(9,000 Phase I, 16,656 Phase II)

RQSTD

= # of IDs that will be typed at a given locus

COMPLETED

= # of IDs where 2 valid results have been received

OPEN

= # of IDs where no results have been received

PARTLY COMPLETED

= # of IDs where 1 valid result has been received but the second result has not been received

NOT COMPLETED

= Sum of OPEN and PARTLY COMPLETE

NO MAKE

= # of IDs where a no make has been received at one or both alleles

ATTACHMENT 3

(A) DONOR TYPINGS PERFORMED

(B) DONORS SAMPLES STORED AND SHIPPED

NMDP DNA PROJECT**DONOR TYPINGS PERFORMED****April 1, 1997 - April 30, 1997**

PRIORITY 1	2,351
PRIORITY 2	13,141
PRIORITY 3	58

TOTAL	15,550
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NMDP DNA PROJECT**DONOR SAMPLES STORED****April 1, 1997 - April 30, 1997**

ARC - NATIONAL	21,031
PITTSBURGH	11,000
<hr/>	
TOTAL	32,031

DONOR SAMPLES SHIPPED**April 1, 1997 - April 30, 1997**

ARC - NATIONAL	11,460
PITTSBURGH	10,400
<hr/>	
TOTAL	21,860

ATTACHMENT 4

**AGENDA—TRANSPLANT CENTER COORDINATOR
SPRING MEETING**



Agenda

DoubleTree Hotel • Tucson, AZ • April 14 & 15, 1997

Monday, April 14

- 8:00 a.m. CONTINENTAL BREAKFAST/ REGISTRATION
- 8:30 a.m. CURRENT NMDP ISSUES *Dennis Confer, M.D., NMDP Medical Director*
- 9:00 a.m. STAR® SYSTEM UPDATE *Polly Uner, Search Coordinator Team Leader*
- 9:30 a.m. IRWIN MEMORIAL REPOSITORY
DNA TYPING PROJECTS *Janet Hegland, Dir. Research & Scientific Services*
- 10:00 a.m. BREAK
- 10:30 a.m. BREAKOUT (CHOOSE ONE)
FORMS TRAINING WORKSHOP *Roberta King, M.P.H., Manager, Clinical Research*
Marie Matlack, MT (ASCP), Clinical Research Specialist
SEARCH STRATEGIES WORKSHOP *Linda Edwins, MT (ASCP), CHS HLA Consultant*
- 12:00 p.m. LUNCH (on your own)
- 2:00 p.m. CPI - PHASE II *Roberta King*
- 3:00 p.m. MASTERPLAN FOR DATA AUDITS *Roberta King*
- 3:15 p.m. CYBER CENTERS *Devan Shepherd, M.S., M.A., Dir., Information Systems*
- 3:45 p.m. BREAK
- 4:00 p.m. TOWN HALL MEETING
- 5:00 p.m. ADJOURN
- 5:15 p.m. TOUR of the University Medical Center Tucson BMT Unit. (optional)

Tuesday, April 15

- 8:00 a.m. CONTINENTAL BREAKFAST
- 8:30 a.m. STRATEGIES FOR INCREASING
THE NUMBER OF TRANSPLANTS *Dennis Confer, M.D.*
- 9:15 a.m. ROUNDTABLE DISCUSSIONS (CHOOSE ONE)
TRANSPLANT CENTER STAFFING
WORKING WITH CHALLENGING FAMILIES
- 10:00 a.m. BREAK
- 10:15 a.m. CLASS I DNA-BASED HLA TYPING:
UPCOMING CHANGES *Janet Hegland*
- 10:30 a.m. INITIATIVES AT NMDP CENTERS UTILIZING DONOR PERIPHERAL BLOOD
Introduction *Janet Hegland*
Infection and relapse prophylaxis *Jennifer Miller, Univ. of Iowa Pediatric BMT Program*
EBV-specific cytotoxic T-lymphocytes *Stacye Richardson, St. Jude Children's Research Hospital*
- 11:30 a.m. ADJOURN